We claim:

1. A fuel supply apparatus for supplying fuel to an internal combustion engine, said fuel supply apparatus comprising

at least one fuel valve (16) for introducing the fuel into the internal combustion engine;

a fuel tank (2);

a fuel line (10) connected to the fuel tank (2);

a first fuel pump (6) for supplying the fuel from the fuel tank (2) to the fuel line (10);

a second fuel pump (12) for supplying the fuel from the fuel line (10) via a pressurized line (14,42,44) to said at least one fuel valve (16) so that the fuel is introduced into the internal combustion engine at least indirectly;

a fuel return line (22) connecting the fuel line (10) to the fuel tank (2) for fuel return;

a pressure regulator valve (26) arranged in the fuel return line (22);

a shut off valve (30) arranged in the fuel return line (22) hydraulically in series with the pressure regulator valve (26); and

a fuel scavenger line (60) conducts the fuel back to the fuel tank (2) partially through the second fuel pump (12) and partially through a hydraulic resistance means (61, 62, 66, 70, 72, 76, 84).

2. The fuel supply apparatus as defined in claim 1, further comprising means (20,

65) for controlling the shut off valve (30) according to a temperature.

3. The fuel supply apparatus as defined in claim 1, wherein the second fuel pump (12) has a pump housing (12g) and the fuel scavenger line (6) extends through said pump housing (12g).

4. The fuel supply apparatus as defined in claim 1, wherein the hydraulic resistance means comprises another valve (61, 62, 66, 72) that opens depending on a pressure.

5. The fuel supply apparatus as defined in claim 1, wherein the hydraulic resistance means comprises an additional valve (70, 76, 84) and said additional valve has a flow-through resistance depending on the fluid flowing therethrough.

6. The fuel supply apparatus as defined in claim 1, wherein the fuel scavenger line (60) opens into the fuel return line (22) hydraulically between the shut off valve (30) and the pressure regulator valve (26).

7. The fuel supply apparatus as defined in claim 1, further comprising an overpressure valve (7) connected in parallel hydraulically to the pressure regulator valve (26).

8. The fuel supply apparatus as defined in claim 1, further comprising a circulator

line (52,52') connecting the pressurized line (14, 42, 44) to the fuel line (10) via a control valve (50,50').

9. The fuel supply apparatus as defined in claim 8, wherein the circulator line(52,52') is connected to the fuel line (10) by means of a hydraulic resistance element (53,74,80).

10. The fuel supply apparatus as defined in claim 8, wherein the circulator line (52,52') is connected to the fuel line (10) by means of a check valve (53,80).

11. The fuel supply apparatus as defined in claim 10, further comprising a throttle (74) connected in parallel hydraulically to the check valve.

12. The fuel supply apparatus as defined in claim 3, wherein the second fuel pump (12) has a low pressure side (12n) and the fuel scavenger line (60) is connected at a highest position thereof to said low pressure side (12n) of the fuel scavenger line (60) and branches from the pump housing (12g).

13. The fuel supply apparatus as defined in claim 8, wherein the second fuel pump (12) has a compression chamber (12k) and the circulator line (52') extends from the compression chamber (12k).

14. The fuel supply apparatus as defined in claim 1, further comprising a leakage

2 line (88) connecting the second fuel pump (12) to the fuel tank (2).

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1 15. The fuel supply apparatus as defined in claim 14, wherein the leakage line

2 (88) opens into the return line (22) upstream of the shut off valve (30).